



# Sustainable Hospitals Project

A Project of the Lowell Center for Sustainable Production, University of Massachusetts Lowell

## Mercury Spills – How Much Do They Cost?

The cost of mercury spills is a topic of interest because some hospitals gain support for mercury reduction programs by using spill cost avoidance as a justification for change. In general, the true costs of mercury spills are not well documented and tend to be anecdotal. Here are several references to help you recognize potential costs.

Cost Estimate for Clean-up	Reference & Description
Small spill - \$1000 Large spill - \$tens of thousands	<a href="http://www.middlecities.org/PDF/mercury_bulletin.pdf">http://www.middlecities.org/PDF/mercury_bulletin.pdf</a> "Mercury Contamination Risk Control", Middle Cities Risk Management Trust, Okemos, MI " A typical thermometer contains ½ to 3 grams (.018 to .11 ounces) of mercury. A typical household mercury fever thermometer contains approximately 1 gram of mercury. A typical barometer contains 1 pound (454 grams) of mercury and poses a significant spill risk. The cost of cleaning up a spill will vary by the size of the spill and the degree of exposure to property and people. Small spill clean-ups usually cost around \$1,000 and large spills can go into the tens of thousands of dollars."
3 oral fever thermometers - \$5000  Not uncommon... to exceed \$25,000	<a href="http://cc.yzu.edu/eohs/bulletins/MERCURY.htm">http://cc.yzu.edu/eohs/bulletins/MERCURY.htm</a> "The Hazards of the Element Called Mercury", Youngstown State University "Unfortunately, it does not take a large amount of mercury to produce a problem. In one specific instance, three oral fever thermometers were broken. The mercury fell onto the floor in an office that was approximately ten square feet in size. Following the accident, the mercury vapors present in the air of that room were about three times that permitted by OSHA. Consequently, the room had to be decontaminated, all carpeting had to be discarded at a total cost of about \$5000. This was a very small mercury spill. It is not uncommon for cleanup costs of mercury spills to exceed \$25,000."
Reported costs went up to \$130,000	<a href="http://www.des.state.nh.us/nhppp/hospital_survey.htm">http://www.des.state.nh.us/nhppp/hospital_survey.htm</a> NH Mercury Reduction Project: Hospital Baseline Survey 1999 PRELIMINARY SURVEY RESULTS New Hampshire Department of Environmental Services "Spills and Breakages – Seven hospitals indicated some kind of mercury spill or equipment breakage and release during 1998. The actual number of spills may be higher, as small spills and breakages may not always be reported. Most hospitals did not have any idea of the cost of clean-up, but reported costs went up to \$130,000!!"
~\$5000 for 1 broken sphygmomanometer	<a href="http://dnr.metrokc.gov/swd/bizprog/waste_pre/MIRTsem8.htm">http://dnr.metrokc.gov/swd/bizprog/waste_pre/MIRTsem8.htm</a> Medical Industry Waste Prevention Round Table REDUCING MERCURY in Hospitals and Biomedical Facilities (A MIRT Seminar, May 23, 2001), King County, Seattle, WA " Economic Considerations • Clean up costs - It often costs ~\$5,000 for 1 broken sphygmomanometer – you could buy 30 or 40 non-mercury ones for that cost. One local hospital recently spent \$10,054 dollars to clean up a spilled sphygmomanometer. • Regulatory Costs - 30-ppt pretreatment level in some places (fines) • Hazardous Waste training costs • JCAHO compliance – JCAHO is starting to ask questions"

Cost for	Reference & Description, cont'd
\$10,054 for one broken barometer	<p><a href="http://www.pprc.org/pprc/pubs/topics/healthcare.html#mercury">http://www.pprc.org/pprc/pubs/topics/healthcare.html#mercury</a> Northwest Guide to Pollution Prevention by the Healthcare Sector</p> <p>"a large barometer fell and broke in a 60 square foot office in a Medical Center located in the Puget Sound Region. The barometer was used to calibrate instruments used in treatment of patients. No one knew when the barometer fell and broke in the office. The office has carpet..."</p> <p>"The following are costs associated with the mitigation of the spilled mercury in this 60 square foot office area:            Outside Vendor Cleanup Company – Time, Materials and Labor: \$ 4,094.00            Replacement of Mercury Spill Vacuum: \$ 3,200.00            Medical Follow up (Blood Testing) For Hospital Staff: \$ 260.00            Mercury Disposal Costs: (Will Vary Per Vendor Used) \$ 1,600.00            Labor Hours Cost for Hospital Personnel Involved Est.: \$ 1,000.00            Total Costs for Spill Mitigation: \$ 10,054.00"</p> <p><i>(Note: the full case study is online at the website listed above)</i></p>
\$570,000 to clean up after sink trap work  Environmental service (alone) for any spill costs \$1000-1500	<p><a href="http://dnr.metrokc.gov/swd/bizprog/waste_pre/MIRTsem8.htm">http://dnr.metrokc.gov/swd/bizprog/waste_pre/MIRTsem8.htm</a> "Question: How did you get voluntary switch-out of Hg?            Answer: VA People remember the Hg spills and are willing to work to avoid going through it again. UW always calls in Foss Env for any spills. Just for Foss's services costs \$1000-\$1500. Someone at Bowling Green University changed their sink traps, piled them up and carried them across campus. Mercury was spread everywhere. Cost \$570,000 to clean up."</p>
\$350,000 to clean up contamination and restore building to original condition	<p><a href="http://204.178.120.25/library/college.htm">http://204.178.120.25/library/college.htm</a> "Spill Spreads Mercury Contamination – A large university in Ohio contracted plumbing work on one of its science labs. While dismantling laboratory piping, the contractor discovered an existing mercury spill that resulted in mercury contamination throughout the building. Costs to clean up the contamination and restore the building to its original condition were \$350,000."</p>
\$5000 to dispose of a lab oven contaminated by a broken mercury thermometer	<p>A major educational institution shared this experience with the SHP: A mercury thermometer broke in a convection oven in the hospital laboratory. The mercury volatilized, then recondensed when the oven was cooled down. Testing with a Jerome meter showed high levels of mercury, which resulted in the entire oven being removed as hazardous waste. This cost slightly over \$5000, not including the replacement cost of the oven.</p>

*Note: Information was retrieved from the designated websites on April 30, 2003.*

For more information on mercury and alternatives, visit the Sustainable Hospitals website at <http://www.sustainablehospitals.org> or contact the SHP by phone (978-934-3386) or email ([shp@uml.edu](mailto:shp@uml.edu)).